

REMARKS

Claims 1-22 and 24-47 are pending in the present application. Claim 23 and 48-54 were canceled. By virtue of this response, claims 1, 11-14 and 24 have been amended, and claims 10, 19-22 and 25 have been canceled. Accordingly, claims 1-9, 11-18, 24, 26-47 are currently under consideration. Support for the amendment of claim 1 is found in the specification on, *inter alia*, page 11, line 31 through page 12, line 7; page 21, lines 2-5; and Figures 1 and 2 (#5).

With respect to all claim amendments and cancellations, Applicants have not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants reserve the right to pursue prosecution of any presently excluded claim embodiments in future continuation and/or divisional application.

Information Disclosure Statement

The Examiner stated that Exhibits A-C are acknowledged. The Examiner also stated that the exhibits include English language translations of non-English abstracts. The Examiner alleged that the Exhibits fail to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the exhibits were not accompanied with either 1) a statement as set forth in 37 C.F.R. § 1.97(e) or 2) a fee as set forth in § 1.17(p). Furthermore, because the exhibits are translations of non-English language abstracts provided in the Information Disclosure Statement of 11 July 2002, the exhibits allegedly suggest that Applicant has not complied with 37 C.F.R. § 1.56. The Examiner stated that, however, for purposes of examination, the exhibits are treated as if they have been properly filed in an Information Disclosure Statement. The Examiner

alleged that the exhibits necessitate new grounds of rejection and the new grounds for rejection are necessitated by the newly submitted exhibits and therefore this action is made **final**.

Applicants submit the Examiner's allegation on the IDS is erroneous for several reasons.

First, the IDS submitting numerous references including WO 00/61817, CN 1255552, CN 1255651 and CN 1248702 was submitted on July 1, 2002, which is earlier than the mailing date of the first office action on the merits, which is September 17, 2002. Accordingly, neither a statement as set forth in 37 C.F.R. § 1.97(e) nor a fee as set forth in § 1.17(p) is required for the IDS to be considered by the Examiner. Second, the July 11, 2002 IDS contains the statement "The documents Nos. 9-12, listed on the attached Form PTO-1449 were cited in a Search Report (copy attached) directed to a counterpart international or foreign application." (See the first paragraph on page 2 of the July 11, 2002 IDS). The PCT Search Report, which listed WO 00/61817, CN 1255552, CN 1255651 and CN 1248702, was mailed on April 4, 2002 and the IDS was filed on July 1, 2002, within 3 months from which the references were received. In other words, the July 11, 2002 IDS in fact indicates that WO 00/61817, CN 1255552, CN 1255651 and CN 1248702 were first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement to the U.S. PTO, thereby satisfying 37 C.F.R. 1.97(e)(1).

Applicants also traverse the Examiner's allegation that applicant has not complied with 37 C.F.R. § 1.56 by not submitting Exhibits A-C, *i.e.*, English abstracts of CN 1255552, CN 1255651 and CN 1248702, in the July 11, 2002 IDS. The fact is that as of July 11, 2002, applicants only received CN 1255552, CN 1255651 and CN 1248702 in Chinese with the PCT Search Report and applicants included these references with the PCT Search Report in the July 11, 2002 IDS. Applicants did not obtain English abstracts of CN 1255552, CN 1255651 and CN

1248702 until after the first Office Action was mailed on September 17, 2002. Accordingly, applicants complied with 37 C.F.R. § 1.56 by submitting CN 1255552, CN 1255651 and CN 1248702 in Chinese with the PCT Search Report in the July 11, 2002 IDS. In addition, the PCT Search Report marked the cited references as type "A" references, indicating that these references were cited for general state of art and were not considered to be of particular relevant to the presently claimed invention. Applicants generally have no obligation for providing English translation for cited references and let alone the references cited for general state of art only. Therefore, applicants respectfully request that the Examiner consider and make CN 1255552, CN 1255651 and CN 1248702 of record of the present application.

In any case, the above is related to the issue whether the Examiner should consider and make CN 1255552, CN 1255651 and CN 1248702 of record of the present application. It does not provide any basis for the Examiner to make a final rejection, based on a new ground, of claims that were all pending when the first non-final Office Action was issued. The Amendment submitted on December 16, 2002 merely incorporated the limitation of then pending claim 23 into claim 1. Claim 23 was not rejected based on CN 1248702 in the first non-final Office Action even though CN 1248702 was submitted as part of the July 11, 2002 IDS. Applicants respectfully request that the finality of the present Office Action be removed.

Claims Objections

The Examiner objected to claim 24 because it depends from canceled claim 23. This objection is rendered moot by the amendment of claim 24. Applicants respectfully request that this objection be withdrawn.

Rejections under 35 USC § 103

Rava in view of Yasuda and Schembri

Claims 1-22 and 24-47 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Rava et al (U.S. Patent No. 5,545,531) in view of Yasuda et al (U.S. Patent No. 6,093,370) and Schembri et al (U.S. Patent No. 6,258,593). The Examiner acknowledges that Rava et al. and Yasuda et al. do not specifically teach that the microlocations are thermally insulated by inert gas wherein the inert gas is air. The Examiner alleges that Schembri et al. teach a similar device wherein the microlocations are thermally insulated by air between the walls of adjacent wells (Fig. 1-3). Specifically, the Examiner states that "the wells within the device are separated by a space provided by and between the gaskets (one for each microlocation) thereby providing a space which isolates and insulates the wells from each other (Column 10, line 57-Column 11, line 52 and Fig. 1 #4)". The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the insulation of Schembri et al. to the space between the wells of Rava et al. and Yasuda et al. to thereby insulate the wells from each other for the obvious benefits of maintaining environmental control of each individual microlocation. The Examiner further asserts that one skilled in the art would have been motivated to thermally insulate the microlocations to thereby optimize thermal conditions for each microlocation based on the test being performed thereon.

Applicants respectfully traverse this rejection.

Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion, either in the references themselves or in the knowledge generally

available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the prior art reference (or references when combined) must teach or suggest all the claim limitations. These requirements are summarized in the MPEP (MPEP §2143, and §2143.01 to §2143.03), and are based on well-settled case law: *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986); and *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Applicants respectfully submit that the cited references, even if combined, do not teach or suggest all of the claimed limitations. Claim 1 as amended recites that "wherein the microlocations are in a well format and all of the wells are connected to each other by thin girders and thermally insulated by an inert gas contained within the walls of the adjacent wells". Rava et al. and Yasuda et al. do not specifically teach that the microlocations are thermally insulated by air as acknowledged by the Examiner. Schembri et al. do not cure the deficiencies of Rava et al. and Yasuda et al. Schembri et al. do not teach insulation by air contained within the walls between adjacent wells created by space within the thin girders as claimed. See the present specification, at page 11, line 31 through page 12, line 7; and page 21, lines 2-5. The wells disclosed Schembri et al. are not connected to each other by thin girders. Schembri et al. only disclose that the wells are separated by a space provided by and between the gaskets (one for each microlocation) (Fig. 1, #4). These gaskets are not connected to each other by thin girders. Thus, the air in Schembri et al. is not within the wall between adjacent wells as claimed in the present invention. Since Rava et al., Yasuda et al., and Schembri et al., when combined, do not teach or suggest all of the claimed limitations in claim 1 as amended, and claims 2-9, 11-

18, and 26-47 which are dependent from claim 1, the Examiner has not set forth a *prima facie* case for obviousness. Thus, the obviousness rejection may be properly withdrawn on this ground.

In addition, Applicants respectfully submit that the cited references do not provide the motivation to combine reference teachings. As discussed above, neither Rava et al. nor Yasuda et al. teach or suggest that all of the wells are thermally insulated by air contained within the walls of the adjacent wells as recited in claim 1 as amended. Although Rava et al. teach a device with wells connected to each other by channel walls (i.e., thin girders) as asserted by the Examiner (Rava et al., column 8, lines 14-16 and Fig. 5, #550), Rava et al. do not teach or suggest that the channel walls or "thin girders" contain air for insulation between the wells. Schembri et al. do not teach or suggest using thin girders or walls between wells containing air within the walls for insulating between the wells. In Schembri et al., the wells are not connected by thin girders, and the gaskets that provide the space between the wells are not connected to each other. Based on the above, the references cited by the Examiner do not provide the motivation to combine reference teachings. Thus, the Examiner has not set forth a *prima facie* case for obviousness and the obviousness rejection may be properly withdrawn on this ground.

In view of the above, Applicants respectfully request that the rejection be withdrawn.

Rava in view of Yasuda and Zuhong

Claims 1-22 and 24-47 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Rava et al (U.S. Patent No. 5,545,531) in view of Yasuda et al (U.S. Patent No. 6,093,370) and Zuhong (CN 1248702). The Examiner acknowledges that Rava et al. and Yasuda et al. do not specifically teach that the microlocations are thermally insulated by inert gas

wherein the inert gas is air and wherein the insulated air is contained between the walls of adjacent wells. The Examiner alleges that Zuhong et al. teach that the circulated air thermostatically and independently controls the conditions within the microlocations. The Examiner assets that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the microlocations of Rava et al. and Yasuda et al. by thermally insulating all microlocations with air for the expected benefit of thermostatically and independently controlling the conditions within the microlocations as taught by Zuhong.

Applicants respectfully traverse this rejection.

Applicants respectfully submit that the cited references, even if combined, do not teach or suggest all of the claimed limitations. As discussed above and acknowledged by the Examiner, Rava et al. and Yasuda et al. do not teach or suggest that the microlocations are thermally insulated by air wherein the insulated air is contained between the walls of adjacent wells. Zuhong et al. do not cure the deficiencies of Rava et al. and Yasuda et al. Zuhong et al. teach a biochip which uses multi-temperature zone or four microreactors (T1, T2, T3, and T4 shown in Figs. 1-5) for denaturation, annealing, elongation, and microarray probe hybridization of PCR (Zuhong et al., abstract). Although the temperature in each microreactor in the circulating system is independently and thermostatically controlled and these microreactors are in gas or liquid reciprocating flow mode (Zuhong et al., abstract and Figs. 1-5), the "gas" disclosed in Zuhong et al. is within the circulating system and is not within the walls for insulation between the wells as taught by the present invention. Thus, Rava et al. and Yasuda et al., and Zuhong et al. when combined do not teach or suggest all the claimed limitations in claim 1 as amended, and claims 2-18 and 26-47 which are dependent from claim 1. The obviousness rejection may be properly withdrawn on this ground.

In addition, Applicants respectfully submit that the cited references do not provide motivation to combine reference teachings. As discussed above, none of the references cited by the Examiner (Rava et al., Yasuda et al., and Zuhong et al.) teach or suggest that the microlocations are thermally insulated by air wherein the insulated air is contained within the walls of adjacent wells. Thus, these references do not provide the motivation to combine reference teachings and the obviousness rejection may be properly withdrawn on this ground.

In view of the above, Applicants respectfully request that the rejection be withdrawn.

Zhou in view of Zuhong

Claims 1-6, 8, 10, 13-22, 26-27, 31-33, 36, 38-41, 46 and 47 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Zhou et al (U.S. Patent No. 6,355,491 B1, filed 17 September 1999) in view of Zuhong (CN 1248702, 3 September 1999). The Examiner acknowledges that Zhou et al. do not specifically teach that the microlocations are thermally insulated by inert gas wherein the inert gas is air and wherein the insulated air is contained between the walls of adjacent wells. The Examiner alleges that Zuhong et al. teach that the circulated air thermostatically and independently controls the conditions within the microlocations. The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the microlocations of Zhou et al. by thermally insulating all microlocations with air for the expected benefit of thermostatically and independently controlling the conditions within the microlocations as taught by Zuhong.

Applicants respectfully traverse this rejection.

Applicants respectfully submit that the cited references, even if combined, do not teach or suggest all of the claimed limitations. As acknowledged by the Examiner, Zhou et al. do not

teach or suggest that the microlocations are thermally insulated by air contained within the walls of adjacent wells. Zuhong et al. do not cure this deficiency of Zhou et al. As discussed above, Zuhong et al. do not teach or suggest that the microlocations are thermally insulated by air contained within the walls of adjacent wells. Thus, the references cited by the Examiner when combined do not teach or suggest all of the claimed limitations in claim 1 as amended, and claims 2-6, 8, 13-18, 26-27, 31-33, 36, 38-41, 46 and 47 which are dependent from claim 1. The obviousness rejection may be properly withdrawn on this ground.

Applicants also respectfully submit that the cited references do not provide the motivation to combine reference teachings. Since none of the references cited by the Examiner teach or suggest that the microlocations are thermally insulated by air contained within the walls of adjacent well as discussed above, the references cited by the Examiner do not provide the motivation to combine reference teachings. Thus, the obviousness rejection may be properly withdrawn on this ground.

In view of the above, Applicants respectfully request that the rejection be withdrawn.

Double Patenting

Zhou in view of Zuhong

Claims 1-7, 8, 10, 13-22, 26-27, 31-33, 36, 38-41, 46 and 47 are rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-40 of Zhou et al. (U.S. Patent No. 6,355,491) in view of Zuhong (CN 1248702, 3 September 1999). The Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the microlocations of Zhou et al by thermally insulating all microlocations with air for the expected benefit of thermostatically

and independently controlling the conditions within the microlocations as taught by Zuhong
(Abstract).

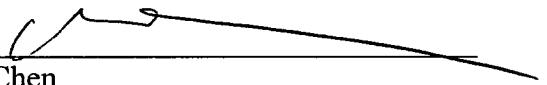
Applicants respectfully traverse this rejection. As discussed above, claim 1 as amended, and claims 2-7, 8, 13-18, 26-27, 31-33, 36, 38-41, 46 and 47 which are dependent from claim 1, are not obvious over Zhou et al. in view of Zuhong. Applicants respectfully request that this rejection be withdrawn.

CONCLUSION

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 514572000100. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

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